

# NOTES ON THE GENUS *URBANIA* (VERBENACEAE)

Harold N. Moldenke

Since time is no longer available to me for the preparation of the detailed monograph of this genus originally planned and announced, it seems best now to place on record the bibliographic and herbarium notes on this genus assembled by my wife, Alma L. Moldenke, and myself over the past 52 years, the 71st genus to be treated by me since the work began in 1929. The herbarium acronyms herein employed are the same as have been used consistently in this entire series of papers in this journal (and in some other journals) and most recently fully explained in *Phytologia Memoirs* 2: 463--469 (1980).

*URBANIA* R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: 60. 1891, nom. conserv. [not *Urbania* Vatke, 1875, nom. rejic.].

Bibliography: Vatke, Oesterr. Bot. Zeitschr. 25: 10. 1875; R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: [Cat. Praev. Pl. Itin. Tarap.] 60, pl. 2, fig. 7. 1891; R. A. Phil., Verz. Hocheb. Prov. Antofag. 60, pl. 2, fig. 7. 1891; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, Nachtr. zu 4 (3a): 290. 1897; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 430. 1904; Post & Kuntze, Lexicon 581 & 688. 1904; Thiselet-Dyer, Ind. Kew. Suppl. 2: 1149. 1904; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 446. 1906; Reiche, Estud. Crit. Fl. Chile 296--297. 1907; Reiche & Phil., Fl. Chile 5: 272 & 296--297. 1910; M. Kunz, Anatom. Untersuch. Verb. 32 & 33. 1911; Stapf, Ind. Lond. 6: 393. 1931; Junell, Symb. Bot. Upsal. 1 (4): 17. 1934; Greene, Kew Bull. Misc. Inf. 1935: 526. 1935; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 446. 1941; Mold., Suppl. List Inv. Names 7. 1941; Mold., Alph. List Inv. Names 44. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 42 & 101. 1942; H. N. & A. L. Mold., Pl. Life 2: 30 & 87. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 101 & 197. 1949; Metcalfe & Chalk, Anat. Dicot. 1031, 1032, & 1041. 1950; Acevedo de Vargas, Bol. Mus. Nac. Hist. Nat. Chile 25: 49--50. 1951; Angely, Cat. Estat. Gen. Bot. Fan. 17: 6. 1956; Cabrera, Revist. Invest. Agric. 11: 336, 366, & 398. 1957; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 446. 1959; Mold., Résumé 121 & 470. 1959; Muñoz Pizarro, Espec. Pl. Descr. Phil. 110. 1960; Rickett & Stafleu, Taxon 9: 84. 1960; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 430. 1963; F. A. Barkley, List Ord. Fam. Anthoph. 76 & 218. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 1166. 1966; Rouleau, Guide Ind. Kew. 195 & 353. 1970; Heusser, Poll. Spores Chile 61, pl. 57-664. 1971; Mold., Fifth Summ. 1: 192 (1971) and 2: 645, 752, & 911--912. 1971; Mold., Phytologia 23: 511. 1972; Stafleu, Internat. Code Bot. Nom. 354 & 392. 1972; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 1196. 1973; Troncoso, Darwiniana 18: 296, 302, 304, 319--321, & 411, fig. 4. 1974; Thanikaimoni, Inst. Franç. Pond. Trav. Sect. Scient. Techn.

13: 242 & 328. 1976; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 41 & 47. 1978; Mold., Phytol. 2: 183, 446, & 579. 1980; Ueber, Bot. Soc. Am. Misc. Ser. Publ. 158: 120. 1980; Mold., Phytologia 47: 411 & 512. 1981.

Low caespitose shrubs or subshrubs forming woody mats a few cm. tall, with subterranean trunks and branches and the young shoots appressed to the surface of the soil: leaves decussate-opposite, simple, minute, somewhat fleshy, exstipulate, densely imbricate; flowers inconspicuous, sessile, hidden by the dense calyx-hairs, complete, perfect, borne in groups of 1--4 at the tips of the branchlets; calyx gamosepalous, inferior, prismatic-tubular, slender, very short, deeply 5-parted, the segments filiform to linear or narrow-oblong, externally copiously pilose on the upper half with long, white, dense tufts of antrorse hairs; corolla gamopetalous, diminutive, infundibular, glabrous, its tube sub-cylindric, apically gradually ampliate, the limb 5-lobed, the lobes short, subequal, apically rounded or emarginate; stamens 4, didynamous, fertile, inserted in the upper half of the corolla-tube, included; filaments very short; anthers subsessile, oblong, basifixed, eglandular; pistil single, compound; style single, filiform, terminal; stigma shortly bilobed, the posterior lobe apically acute, the anterior one capitate and papillose; ovary superior, 4-celled, bicarpellary, each carpel forming 2 cells, each cell 1-ovulate; ovules attached at the base of the cell; fruit schizocarpous, dry at maturity, easily separating into 4 mericarps (schizocarps) which are subcylindric and dorsally reticulate; seeds 4, oblong, without endosperm (exalbuminous).

Type species: *Urbania pappigera* R. A. Phil.

This is a small genus of 2 known species endemic to the Argentine-Chilean high-andean puna. It is named in honor of Ignatz Urban (1848--1931), well-known German taxonomist at Berlin, noted for his critical work on the plants of the West Indies. Philippi rightly comments that the "capitulum *Synantherarum* mentientibus", for the long erect white calyx-hairs certainly do resemble the pappus of composite flower-heads.

Troncoso (1974) comments that "Género muy afín a *Verbena*, secc. *Junellia*, se diferencia por su cáliz profundamente 5-partido con lóbulos lineales y largamente pilosos; en *Verbena* es cilíndrico-tubuloso, 5-dentado, con dientes en general breves, argudos o subulados".

The generic name, *Urbania*, proposed by Philippi (1891), unfortunately is conserved under the International Code of Botanical Nomenclature (1972) over the *Urbania* of Vatke (1875), now regarded as a synonym of *Lyperia* Benth. in the *Scrophulariaceae*. There is also a genus *Neo-urbania* Fawc. & Rendle, Journ. Bot. Brit. For. 47: 125 (1909) which is apparently a valid genus in the *Orchidaceae*. Incidentally, *Urbania* is credited to "R. Philippi" and listed under the *Boraginaceae* by Rickett & Stafleu (1960).

The Zöllner 5371, distributed as *Urbania* sp., actually is *Junellia aspera* (Gill. & Hook.) Mold., while Werdermann 263 & 957 are *Kurtzamia pulchella* (Clos.) Kuntze in the *Lamiaceae*. A specimen of the first-mentioned Werdermann collection in the Berlin her-

barium was photographed by Macbride and distributed by the Field Museum of Natural History in Chicago as its type photograph number 20317, identified as *Urbania odorata* Werd. (apparently only a cheironym).

Briquet (1897) comments that "Diese Gattung scheint mir nach der Beschreibung, wenn die Verwandtschaftsverhältnisse vom Autor richtig gedeutet worden, von *Verbena* durch Kelch und Griffel in der That vortrefflich unterschieden zu sein."

Junell (1934), on the basis of *Werdermann 1019* in the Berlin herbarium, says: "Derselbe Fruchtknoten wie bei *Verbena*. Die Verwachsung zwischen den mittleren Partien der Fruchtblätter und den einwärts gekrümmten Teilen derselben erfolgt tief unter im Fruchtknoten. In diesen Niveau ist die Mittelpartie des Fruchtblattes wie bei einigen *Verbena*-Arten etwas verdickt und schwach gespalten. Die Höhle in der Mitte des Fruchtknotens ist sehr bedeutend, da die eingerollten Partien der Fruchtblätter zum grössten Teil miteinander verwachsen sind. Die Vierteilung des Fruchtknotens ist daher hier nicht so deutlich wie bei *Verbena*."

Excluded taxa:

*Urbania* Vatke, Oester. Bot. Zeitschr. 25:10. 1875 = *Lyperia* Benth., *Scrophulariaceae*.

*Urbania lyperiaefolia* Vatke, Oester. Bot. Zeitschr. 25: 10. 1875 = *Lyperia* sp., *Scrophulariaceae*.

*Urbania lyperiaefolia* Vatke, Linnaea 43: 306. 1882 = *Lindenbergia sinaica* Benth., *Scrophulariaceae*.

*Urbania odorata* Werd. ex Mold., Suppl. List Inv. Names 7, in syn. 1941; Alph. List Inv. Names 44, in syn. 1942 = *Kurtzamra pulchella* (Clos.) Kuntze, *Lamiaceae*.

An artificial key to the accepted taxa:

1. Leaves ovate, apically obtuse; flowers in groups of 3 or 4....  
.....*U. pappigera*.
- 1a. Leaves ovate-linear, apically acute; flowers solitary.....  
.....*U. eganioides*.

*URBANIA EGANIOIDES* R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: 60, pl. 2, fig. 7 (a & b). 1891.

Synonymy: *Urbania eganioides* R. A. Phil. ex Reiche, Estud. Crit. Fl. Chile 296 & 297. 1907.

Bibliography: R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: [Cat. Praev. Pl. Itin. Tarap.] 60, pl. 2, fig. 7 (a & b). 1891; R. A. Phil., Verz. Hocheb. Prov. Antofag. 60, pl. 2, fig. 7 (a & b). 1891; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 446. 1906; Reiche, Estud. Crit. Fl. Chile 296 & 297. 1907; Reiche & Phil., Fl. Chil. 5: 296 & 297. 1910; Stapf, Ind. Lond. 6: 393. 1931; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 446. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 42 & 101 (1942) and ed. 2, 101 & 197. 1949; Acevedo de Vargas, Bol. Mus. Nac. Hist. Nat. Chile 25: 49--50. 1951; Durand & Jacks., Ind. Kew. Suppl., imp. 3, 446. 1959; Mold., Résumé 121 & 470. 1959; Muñoz Pizarro, Espec. Pl. Descr. Phil. 110. 1960; Mold., Fifth Summ. 1: 192 (1971)

and 2: 911. 1971; Troncoso, Darwiniana 18: 296, 300, 302, 319--321, & 411, fig. 4. 1974; Mold., Phytol. Mem. 2: 183, 446, & 579. 1980.

Illustrations: R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: [Cat. Praev. Pl. Itin. Tarap.], pl. 2, fig. 7 (a & b). 1891; R. A. Phil., Verz. Hocheb. Prov. Antofag. pl. 2, fig. 7 (a & b). 1891.

A dwarf, ramose subshrub, about 5 cm. tall, forming a close mat; stems woody, basally 2 mm. thick; leaves closely antrorsely imbricate, linear or ovate-linear, 3--4 mm. long, basally almost 2 mm. wide, forming a pseudo-involucre beneath the flower and there slightly longer and brighter-green, the lower cauline ones smaller and pale-ferruginous, all apically acute and dorsally carinate; flowers solitary, sessile at the apex of the branchlets; calyx basally membranous, with 5 green veins; corolla short, about 2 mm. long, apparently rose-color, the tube apically pubescent below the limb; seeds black, 2 mm. long, smooth.

This species is based on R. A. Philippi 269 from the province of Tarapaca, Chile. Philippi states that it was growing among the material of *U. pappigera* distributed as his no. 268 "en las mismas localidades". Troncoso (1974) is doubtful about its validity as a separate species -- perhaps varietal or even only form status for it would be more appropriate. More field work and careful collecting are required to settle this question. Reiche (1907) also comments concerning it: "Difiere de la especie anterior [*U. pappigera*] por la ramificacion mas floja, las hojas aovado-lineares, de 3--4 mm.; las flores solitarias (siempre?): las nuecesitas (maduras?) con el dorso no reticulado. La descripcion se funda sobre una sola ramita corta -- acaso de la periferia de un césped de la especie anterior?"

I have seen no material of this taxon, apparently known only from the original collection deposited in the Berlin herbarium and now probably destroyed.

URBANIA PAPPIGERA R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: [Car. Praev. Pl. Itin. Tarap.] 60, pl. 2, fig. 7 (c--k). 1891.

Synonymy: *Urbania papygera* Phil. ex M. Kunz, Anatom. Untersuch. Verb. 32 & 33. 1911.

Bibliography: R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: [Cat. Praev. Pl. Itin. Tarap.] 60, pl. 2, fig. 7 (c--k). 1891; R. A. Phil., Verz. Hocheb. Prov. Antofag. 60, pl. 2, fig. 7 (c--k). 1891; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 446. 1906; Reiche, Estud. Crit. Fl. Chile 296 & 297. 1907; Reiche & Phil., Fl. Chil. 5: 296 & 297. 1910; Stapf, Ind. Lond. 6: 393. 1931; Junell, Symp. Bot. Upsal. 1 (4): 17. 1934; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 446. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 42 & 101 (1942) and ed. 2, 101 & 197. 1949; Acevedo de Vargas, Bol. Mus. Nac. Hist. Nat. Chile 25: 50. 1951; Cabrera, Revist. Invest. Agric. 11: 366 & 398. 1957; Mold., Résumé 121 & 470. 1959; Muñoz Pizarro, Espec. Pl. Descr. Phil. 110. 1960; Rickett & Stafleu, Taxon 9: 84. 1960; Heusser, Pollen Spores Chile 61, pl. 57-664. 1971; Mold., Fifth Summ. 1: 192 (1971) and 2: 645 & 912. 1971;

Troncoso, Darwiniana 18: 320 & 321, fig. 4. 1974; Mold., Phytol. Mem. 2: 183 & 579. 1980.

Illustrations: R. A. Phil., Anal. Mus. Nac. Chile Bot. 1: [Cat. Praev. Pl. Itin. Tarap.] 60, pl. 2, fig. 7 (c--k). 1891; R. A. Phil., Verb. Hochsch. Prov. Antofag. 60, pl. 2, fig. 7 (c--k). 1891; Heusser, Pollen Spores Chile 61, pl. 57-664. 1971; Troncoso, Darwiniana 18: 320, fig. 4. 1974.

Dwarf subshrub, with a stout, vertical, woody taproot, densely and closely caespitose; stems to 1 cm. in diameter; branches to 10 cm. long, prostrate, much branched and interlaced, forming a flat mat about 4 cm. high; leaves very small, closely antrorsely imbricate, ovate, reddish-green, 2--3 mm. long, apically obtuse, hispidulous, marginally long white-villous, the upper ones forming a pseudo-involucre around the flowers; flowers in groups of 3 or 4 at the tips of the branches, sessile; calyx about 4 mm. long, its tube about 1 mm. long and the long-villous linear lobes 3 mm. long, the erect white hairs simulating the pappus of composite flowers; corolla small, 5 mm. long, pale- to deep-rose in color, the tube 4 mm. long, the throat open, the limb patulous, 2 mm. wide, its 5 lobes cuneate-oblong, apically rounded to slightly retuse; seeds 1.5 mm. long, dorsally reticulate-rugose, with a central finely papillose keel (as is seen also in various species of (*Verbena*)).

This, the type species of the genus, is based on a collection made by F. Philippi (no. 268) near Minique, Tarapacá, Chile, in January of 1889 and probably deposited in the herbarium of the Museo Nacional de Historia Natural at Santiago, Chile. Reiche (1907), however, states that the species grows "En el interior de las provincias de Tarapacá i Antofagasta, 4,000 m. (p. e. en el rejion de Llullaillaco)", flowering in January and February.

Heusser (1971) describes the pollen as: "Monad, isopolar, radially symmetric; heterocolpate, colpi in three sets of three each, colpi in each group in proximity, the middle colpus crossed equatorially by a prominent transverse pore which is usually constricted, protruding, and extending to the lateral colpi, these latter apparently pseudocolpi; mostly oblate spheroidal, amb triangular; exine ca. 1  $\mu$  thick, tectate, psilate; 23--29 x 25--29  $\mu$ " based on an unnumbered Reiche collection from Llullaillaco, collected in February, 1901, and deposited in the Britton Herbarium at the New York Botanical Garden.

Recent collectors have encountered this plant at 4000--4500 m. altitude, in flower in February and March. Cabrera (1957) cites his nos. 8789 & 9057 from Salta, Argentina; Troncoso (1974) cites *Martcorena*, *Mathei*, & *Quesada* 388 from Tarapacá and *Ricardi* & *Martcorena* 4675/1060 from Antofagasta, Chile, and *Cabrera* 8789 from Salta, Argentina. The photograph (no. 17398) made by Macbride for the Field Museum in Chicago depicts a specimen then in the Berlin herbarium, but said to be from Atacama, Chile, so probably not the type collection.

Citations: CHILE: Antofagasta: *C. Reiche* 15 (N); *Werdermann* 1019 (E--937883, Gg--147445, Mu, N, S, W--1474179). Atacama: *R. A. Philippi* s.n. [Macbride photos 17398] (B--photo, Kr--photo, N--photo, W--photo, W--photo). Tarapaca: *F. Philippi* s.n. [Herb.

Mus. Nac. Hist. Nat. Chile 42497] (N--photo of type); *Werdermann* 1098 (Gg--147475, Mu, N, S, W--1541142).

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# NOTES ON THE GENUS *UBOCHEA* (VERBENACEAE)

Harold N. Moldenke

This is the 72nd genus on which discussions have been published in this journal based on the bibliographic and herbarium work carried on by my wife, Alma L. Moldenke, and myself over the past 52 years.

*UBOCHEA* Baill., Hist. Pl. 11: 103. 1891.

Synonymy: *Upochea* Baill. ex Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 41, sphalm. 1978.

Bibliography: Baill., Hist. Pl. 11: 81 & 103 (1891) and 11: 494. 1892; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 140, 142, 145, & 155. 1895; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 431. 1904; Post & Kuntze, Lexicon 579 & 688. 1904; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 442. 1906; Thonner, Flow. Pl. Afr. 468. 1915; A. Chev., Rev. Bot. Appl. Agruc. Trop. 15: 913 & 1075--1076, fig. 35. 1935; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 442. 1941; H. N. & A. L. Mold., Pl. Life 2: 30. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 111 & 197. 1949; Angely, Cat. Estat. Gen. Bot. Fam. 17: 6. 1956; Anon., U. S. Dept. Agr. Bot. Subj. Ind. 15: 14360. 1958; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 442. 1959; Mold., Résumé 136, 407, & 470. 1959; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 431. 1963; F. A. Barkley, List Ord. Fam. Anthoph. 76 & 218. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 1160. 1966; Stearn, Botan. Latin 292 & 297. 1966; Rouleau, Guide Ind. Kew. 194 & 353. 1970; Mold., Fifth Summ. 1: 215 (1971) and 2: 755 & 911. 1971; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 1191. 1973; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 41. 1978; Mold., Phytol. Mem. 2: 206, 446, & 578. 1980.

Glabrous dichotomously branched shrub; leaves simple, decussate-opposite, exstipulate, petiolate, the blades elliptic or oval, apically acuminate, marginally serrate; flowers in crowded terminal spikes, complete, perfect, similar to those of *Bouchea*, subtended by a single bract; calyx inferior, gamosepalous, tubular, 5-ribbed, the rim 5-toothed; corolla gamopetalous, infundibular, bilabiate, the lobes imbricate in bud; stamens 2, inserted in the corolla-tube, anterior in position; anthers basifixed, the two thecae divergent in a single plane; pistil single, bicarpellary; style single, terminal, slightly exserted; stigma capitate; ovary superior, compound, 2- or 3-celled, each cell 1-ovulate; fruit dry, schizocarpous, composed of two pyrenes (mericarps), one an-